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Inter-relationship for various components and path co-efficient analysis in tomato (*Solanum lycopersicun* L.)

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ABSTRACT : The correlation and path co-efficient studies were conducted for sixteen genotypes of tomato at Vegetable Research Farm, Department of Vegetable Science and Floriculture at C.S.K. Himachal Pradesh Agricultural University, Palampur during 2012 and 2013. Findings clearly indicated that genotypic correlations were of higher magnitude to the corresponding phenotypic ones, thereby establishing strong inherent relationship among the character studied. Marketable yield had a positive and highly significant association with gross yield per plant, number of marketable fruits per plant, total fruits per plant, average fruit weight, number of nodes, plant height and TSS content. Strong association of these traits revealed that the selection based on these traits would ultimately improve the marketable yield and it is also suggested that hybridization of genotypes possessing combination of above characters will prove more useful for getting desired segregants. Path co-efficient analysis revealed that gross yield per plant, ascorbic acid, pericarp thickness and average fruit weight had the highest positive direct effect on fruit yield at phenotypic levels. Number of locules per fruit, total number of fruits per plant, fruit shape index, number of marketable fruits per plant and TSS content also had positive direct effects. Hence, it would be rewarding to lay stress on these characters in selection programme for increasing the marketable yield.

KEY WORDS : Correlation and path analysis, Tomato, Genotypes, Yield, Quality

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